fish was apparently regarded more lightly by many Buddhists than killing of larger animals, but fishing on (1)wan (4)phra, the weekly holy day, was forbidden. Fish were caught from the canal with nets, traps, spears and hooks. Some were trapped in trenches in the rice fields. Techniques varied with the varieties of fish mature and plentiful at different seasons.[1] Moreover, every house had a fish pond. It was usually the hole from which earth had been removed for mounding the home site, and was connected by a ditch to the canal. Fish were lured from the canal into the pond by clearing it of injurious undergrowth, planting appropriate fish-feeding plants, of

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Smaller fish were preserved as fermented fish. The fish with bones left in, were salted overnight. This product was called (1)plaa (1)raa. For fermented fish to be used as seasoning, in various dishes, the liquid was drained off, then the fish were washed and mixed with salt and specially prepared rice. This had been soaked overnight, fried and pounded. The mixture was allowed to ferment in a small jar for from 2 weeks to 2 or 3 months, depending on the product desired. Large bones were removed by putting the product through a colander before use. Fermented fish had the advantage that it could be eaten without further preparation, and the flavor was generally liked.

Small shrimp, which were caught in quantity during only about 3 weeks in February, were made into shrimp paste as follows: the shrimp were washed, mixed with salt and allowed to stand overnight. The liquid was drained off, and the shrimp were spread out on trays and exposed to the sun for a day or so. Larger ones might then be beaten to loosen the shells, which could be winnowed away. For very small shrimp, this step was omitted. The shrimp were then pounded thoroughly in a mortar, and stored in a jar for about a month before use. Very small fish were sometimes made into fish paste in the same way. The yield was about 2 kg. of the tannish or grayish colored shrimp paste from 4 baskets (4/5 tang) of shrimp. Shrimp paste or (2)ka-(2)pi was an essential ingredient of Thai hot dishes.

The liquid which was drained off from the mixture of fish or shrimp and salt in the first stage of preparing fermented fish or shrimp paste was used by some villagers to prepare (4)nam (1)plaa or fishsoy. The liquid was boiled with certain green leaves such as mango leaves, onion, garlic and salt for from 30 minutes to an hour, then it was strained. The resulting red-brown liquid was bottled and was ready for use as a condiment.

1. Sharp et al. (1953, pp. 185-196) described some common fishing techniques and listed 32 varieties of fish known to be found in Bang Chan in 1948-49.

might provide clues to ways in which the diet may be improved. Most of these items were included in lists given by Sharp et al. (1953)[1]. To those lists should be added the following items from our food records:

Green leafy and yellow vegetables: Leaves of bergamot, chili, morinda, onion, potato, pumpkin, (2)sa-(5)noo, and of the following trees: (2)ma-(1)dan, (4)khlyb[2] and West Indian pea tree; (2)kha-(1)canaun flowers.

Other vegetables: flowers of leek and pumpkin, and Chinese or black truffle (water chestnut).

Fruits: Thai nutmeg and tomato.

Fresh foods other than fish: buffalo, duck, cobra, turtle and field rat.

At the end of Chart 2, sources of water for drinking and food preparation have been included, not only because water is properly considered a nutrient, but also because the water used in preparation of food may affect the wholesomeness of foods eaten raw or with little cooking.

Untreated water was the customary beverage with meals. Ordinarily no distinction was made in source of drinking water for children and adults although boiled water was given to mothers and infants to drink during the post partum rest period (Hauck, 1956). Occasionally a sick person would be given boiled water to drink; for example one man who said he was "a little sick" and "not working" was observed to drink hot boiled water from a thermos bottle. In 1955, Ralis[3] found that tea was seldom or never drunk by nearly 3/4 of the respondents. Less than 7% drank it frequently. Thus in Bang Chan no custom had grown up which would afford the general population with a measure of protection against infection from

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1. See Sharp et al., 1953, pp. 193-196 for a list of 32 fish known to be found in Bang Chan; pp. 293-294 for 34 fruits grown in Bang Chan, and p. 295 for 11 fruits known to be used but not grown there; pp. 296-298 for 41 vegetables grown in Bang Chan, and pp. 299-300 for 24 other vegetables used.

2. (4)Khlyb was the term used in Bang Chan for an unidentified tree of the family Leguminosae. Its sweet tasting leaves were washed in boiling water to get rid of a bad odor, then were eaten with (4)nam (4)phrig, a chili sauce.

3. Golden and Ralis, 1957, p. 57. The answers to: "Do you drink tea frequently, occasionally, seldom or never?" were: often, 22; occasionally, 68; seldom, 158; never, 85.

000 Growing other kinds of green and yellow vegetables should be fostered. Although vitamin A value and riboflavin content appear to be critical, in choosing vegetables to be stressed, specialists in agriculture should consider greens [202] with high calcium and low oxalic acid content also. A variety of edible leaves of trees were used by a few families; some used sweet basil as a vegetable rather than just a seasoning; pumpkin and sweet potato were familiar, but less often used than would be desirable. More green or yellow vegetables which mature when canals are low and aquatic plants no longer available, would be especially good. If increased production by most households[1] is not practicable, a few of the more successful gardeners might be persuaded to produce vegetables and fruits which would help to bridge the gap between rainy seasons. Mushrooms, which can be grown readily, would provide a good source of ribo- [244] flavin when leafy vegetables are in short supply. The boom-and-bust experience in mushroom culture (See Appendix A, pp. 101-102) might, however, make its revival as a source of healthful food for home use more difficult than if the villagers did not think of mushrooms as a cash crop for which the market failed.

Eating more fruit would help to tide over the dry 262 season. Fruits were commonly used as snacks, not at meal- [264] time, hence snacks of fruit should be encouraged for adults as well as children. Bananas grew in all gardens and were available the year round. The (4)nam (4)waa variety, which was used in ceremonies, and considered safe for all, should 000 be stressed. More families could grow pineapple, which is [777] relished both raw and in curries. Mango and papaya, fruits of outstanding value for both vitamin A and ascorbic acid, would be excellent, but the idea that growing papayas is "unlucky" must be taken into account. If a few of the more thoughtful and forward-looking farmers could be persuaded to start papaya trees, even though they were not willing to plant them near the house, the practice might spread in time.

496 On the average, the Bang Chan diet did not seem to be [644] very deficient in protein, but distribution is not proportional to need, and protein deficiency may be in part responsible for periods of weight loss, or failure to gain, so 000 common among infants and children. The presence of other [134] essential nutrients in animal foods is important also. If, the local supply of fish is indeed diminishing, efforts to [228] increase it through pond culture should be continued. Abandonment of tilapia culture in Bang Chan, after about one-third of the families had tried it, (Appendix A, p. 101) suggests that not enough of the right kind of help was given

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1. Tenant farmers may not be permitted to enlarge gardens by mounding at the expense of rice fields.

243 per cent in 1949 to thirteen per cent in 1953 suggests that
464
621 the problem of population pressure on land has become more
161 acute, although it may also indicate changes in the cost
178 structure of rice production which will be discussed in Chapter VI.

434 Concluding the discussion of this section, we may
463 say that rice growing is the core of the occupational struc-
222 ture of Bangchan around which other occupations rotate. It
226 is not uncommon that one family has several occupations,
[243] and in addition to income from these most families get "free" food in the forms of fish and uncultivated aquatic plants. This is the principal reason why families with apparently no cash income still thrive.

433 It is conceivable that in years of poor rice crop
434 the family put more effort in the secondary occupations;
21 when such an attempt does not work out well -- for example,
[136] no work for manual labor and no capital for trivial trade -- an effort is made to obtain subsistence directly from nature.

In any event, every family in the village is engaged
[136] in fishing in varying degree. It is because of this fact coupled with the fact that the village fish supply is decreasing that the problem of fish conservation is very important.

243 Finally, the dynamic nature of rice farming, with varying efforts on getting extra jobs and securing free food outside the farm depending upon the increase and decrease of the rice crop, suggests that the economy of any rice